

What is Claimed is:

1. A magnetophoretic display panel comprising:

a magnetic panel including a pair of substrates at least one of which is transparent and a multi-cell structure which is sealedly arranged between said substrates and formed with an interior space of a thickness of 0.8 to 1.5 mm, said multi-cell structure including a number of cells each of which contains therein a colored liquid and colored magnetic particles having a color tone different from that of said colored liquid;

10 a magnetic recording member provided on an end thereof with a magnet, which member is adapted to be slidably moved on a surface of said magnetic panel to form a display on said surface of said magnetic panel due to magnetophoresis of said magnetic particles in each of said cells; and

an magnetic erasure member arranged at a bottom of said magnetic panel so as to be moved along said bottom of said magnetic panel, to thereby erase the display on said surface of said magnetic panel due to magnetophoresis of said magnetic particles in each of said cells;

said magnetic recording member exhibiting an effective magnetic flux density of 100 to 500 Gauss at said bottom of said magnetic panel when said magnetic recording member is positioned on said surface of said magnetic panel;

25 said magnetic erasure member exhibiting an effective magnetic flux density of 300 to 1500 Gauss at said surface of said magnetic panel when said magnetic erasure member is positioned on said bottom of said magnetic panel.

2. A magnetophoretic display panel as defined in claim 1, wherein a number of said cells of said magnetic panel are classified into a plurality of regions by patterning, and the cells of each region contain the respective colored liquid and the respective colored magnetic particles having a color tone different from that of said respective colored liquid.

3. A magnetophoretic display panel as defined in claim

1, wherein said colored magnetic particles exhibit a magnetization of 8.0 emu/g or more when a magnetic field of 200 Oe is applied to said colored magnetic particles and exhibit a magnetization of 20.0 emu/g or more when a magnetic field of 500
5 Oe is applied to said colored magnetic particles; and

each of said cells of said magnetic panel contains 80 to 90 wt% of said colored liquid and 10 to 20 wt% of said colored magnetic particles having a color tone different from that of said colored liquid.

10 4. A magnetophoretic display panel as defined in claim 2, wherein said colored magnetic particles exhibit a magnetization of 8.0 emu/g or more when a magnetic field of 200 Oe is applied to said colored magnetic particles and exhibit a magnetization of 20.0 emu/g or more when a magnetic field of 500 Oe is applied to said colored magnetic particles; and

each of said cells of said magnetic panel contains 80 to 90 wt% of said colored liquid and 10 to 20 wt% of said colored magnetic particles having a color tone different from that of said colored liquid.

20 5. A magnetophoretic display panel as defined in claim 1, wherein each of said colored liquids comprises a liquid mixture including isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment, the liquid mixture having a viscosity of 200 to 800 cP at 25°C.

25 6. A magnetophoretic display panel as defined in claim 2, wherein each of said colored liquids comprises a liquid mixture including isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment, the liquid mixture having a viscosity of 200 to 800 cP at 25°C.

30 7. A magnetophoretic display panel as defined in claim 3, wherein each of said colored liquids comprises a liquid mixture including isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment, the liquid mixture having a viscosity of 200 to 800 cP at 25°C.

8. A magnetophoretic display panel as defined in claim
4, wherein each of said colored liquids comprises a liquid
mixture including isoparaffin, titanium oxide, silicon oxide,
alumina and a coloring pigment, the liquid mixture having a
viscosity of 200 to 800 CP at 25°C.

5 9. A magnetophoretic display device comprising:
 a transparent front substrate;
 a bottom substrate;
 a multi-cell structure sealedly interposed between said
10 front and bottom substrates, said multi-cell structure having a
 thickness of 0.8 to 1.5 mm and being formed with a number of
 cells;

15 dispersions each including a colored liquid and magnetic
 particles which have a color tone different from that of said
 colored liquid and which are dispersed in said colored liquid,
 said dispersions being encapsulated in said cells of said multi-
 cell structure;

20 a magnetic recording member provided at an end thereof
 with a magnet adaptable to be brought into contact with a surface
 of said front substrate to form a display on said front substrate
 due to magnetophoresis of said magnetic particles in each of said
 cells; and

25 a magnetic erasure member arranged on an outer surface of
 said bottom substrate so as to be moved along said outer surface
 of said bottom substrate, to thereby erase the display on said
 front substrate due to magnetophoresis of said magnetic particles
 in each of said cells;

30 said magnetic recording member exhibiting an effective
 magnetic flux density of 100 to 500 Gauss in the vicinity of said
 bottom substrate when said magnetic recording member is
 positioned on said surface of said front substrate;

 said magnetic erasure member exhibiting an effective
 magnetic flux density of 300 to 1500 Gauss at said surface of
 said front substrate when said magnetic erasure member is

positioned on said outer surface of said bottom substrate.

10. A magnetophoretic display device as defined in claim 9, wherein a number of said cells are classified into a plurality of regions by patterning in such a manner that the cells in each 5 region contain the respective dispersion including the colored liquid which has the color tone different from that of the colored liquid which is included in the liquid dispersion contained in the cells of the adjacent region.

11. A magnetophoretic display device as defined in claim 10 9, wherein said colored magnetic particles exhibit a magnetization of 8.0 emu/g or more when a magnetic field of 200 Oe is applied to said colored magnetic particles and exhibit a magnetization of 20.0 emu/g or more when a magnetic field of 500 Oe is applied to said colored magnetic particles.

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12. A magnetophoretic display device as defined in claim 10, wherein said colored magnetic particles exhibit a magnetization of 8.0 emu/g or more when a magnetic field of 200 Oe is applied to said colored magnetic particles and exhibit a magnetization of 20.0 emu/g or more when a magnetic field of 500 Oe is applied to said colored magnetic particles.

13. A magnetophoretic display device as defined in claim 9, wherein each of said dispersions contains 80 to 90 wt% of the respective colored liquid and 10 to 20 wt% of the respective colored magnetic particles having a color tone different from 25 that of said respective colored liquid.

14. A magnetophoretic display device as defined in claim 10, wherein each of said dispersions contains 80 to 90 wt% of the respective colored liquid and 10 to 20 wt% of the respective colored magnetic particles having a color tone different from 30 that of said respective colored liquid.

15. A magnetophoretic display device as defined in claim 11, wherein each of said dispersions contains 80 to 90 wt% of the respective colored liquid and 10 to 20 wt% of the respective colored magnetic particles having a color tone different from

that of said respective colored liquid.

16. A magnetophoretic display device as defined in claim 12, wherein each of said dispersions contains 80 to 90 wt% of the respective colored liquid and 10 to 20 wt% of the respective colored magnetic particles having a color tone different from that of said respective colored liquid.

17. A magnetophoretic display device as defined in claim 10, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

18. A magnetophoretic display device as defined in claim 11, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

19. A magnetophoretic display device as defined in claim 12, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

20. A magnetophoretic display device as defined in claim 13, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

21. A magnetophoretic display device as defined in claim 14, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

22. A magnetophoretic display device as defined in claim 15, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

25 23. A magnetophoretic display device as defined in claim 16, wherein each of said colored liquids includes isoparaffin, titanium oxide, silicon oxide, alumina and a coloring pigment.

24. A magnetophoretic display device as defined in claim 17, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.

30 25. A magnetophoretic display device as defined in claim 18, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.

26. A magnetophoretic display device as defined in claim

19, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.

27. A magnetophoretic display device as defined in claim 20, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.
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28. A magnetophoretic display device as defined in claim 21, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.

29. A magnetophoretic display device as defined in claim 10 22, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.

30. A magnetophoretic display device as defined in claim 23, wherein each of said colored liquids has a viscosity of 200 to 800 cP at 25°C.

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